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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/733,611 | 12/11/2003 | Edgardo Anzures | 51819 | 8541 |

7590 02/10/2005
EDWARDS & ANGELL, LLP
P.O. Box 9169
Boston, MA 02209

EXAMINER

LEE, SIN J

ART UNIT PAPER NUMBER

1752

DATE MAILED: 02/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|---------------------------------------|--|
| Office Action Summary | Application No. 10/733,611 | Applicant(s) ANZURES ET AL. | |
| | Examiner Sin J. Lee | Art Unit 1752 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>10/28/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. It is to be noted that "the alkyl group" in present claim 5 is interpreted by the Examiner to be referring to the alkyl group of the *hydroxyl alkyl (meth)acrylate* or the *alkyl(meth)acrylate* of present claim 1.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 2-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 2 recites the limitation "the substituted alkyl(meth)acrylate" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1 and 5-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Scheve et al (4,717,643).

In Example 1 (see also col.1, lines 44-47) Scheve teaches a backbone polymer prepared from a mixture of following monomers: 80 parts (20 wt.%) of polypropyleneglycol monomethacrylate (present hydroxyl polyalkyleneoxide

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methacrylate), 80 parts (20 wt.%) of methacrylic acid (present methacrylic acid), and total of 240 parts (60 wt.%) of methyl methacrylate and ethyl acrylate (present alkyl methacrylate). To this polymeric backbone, Scheve grafts *isocyanatoethyl* methacrylate ($H_2C=C(CH_3)CO_2CH_2CH_2NCO$) to form his binder material. A thus completed binder material is combined with a *photoinitiator* to make a dry film solder mask composition (see col.2, lines 15-18). Scheve also teaches that preferably *pigments and stabilizers* are included in the composition (col.2, lines 32-34). To make a solder mask, Scheve coats his composition onto 1-mil polyester film and then vacuum laminates the film onto a printed circuit board (see col.4, lines 37-50). The board is *imagewise exposed* to UV radiation through a negative, and the unexposed areas are washed away in 0.75% sodium carbonate. After the board is again exposed to UV radiation, the finished board is immersed in methylene chloride, and the areas protected by the mask do not show *any etching* even after ½ hour. Therefore, prior art teaches present inventions of claims 1, 5-7, 9, and 11-17.

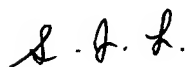
With respect to present claim 8, present claim language *does not require* the pendent functional group of claim 7 to be derived from the diisocyanates, triisocyanates or polyisocyanates; it only requires that *if* the pendent functional group of claim 7 is derived from the diisocyanates, triisocyanates or polyisocyanates, then those compounds are to be bonded through a free isocyanate group to a free hydroxyl group of a compound having the formula shown in claim 8. Therefore, Scheve still teaches the present invention of claim 8.

With respect to present claim 10, present claim language *does not require* the present polymeric binder of claim 9 to have the monomer unit A, hydroxyl substituted alkyl (meth)acrylate. It only requires that *if* present polymeric binder of claim 9 has the monomer unit A, hydroxyl substituted alkyl (meth)acrylate, then the hydroxyl substituted alkyl (meth)acrylate are to be branched or unbranched hydroxyl(C₂-C₆) alkyl (meth)acrylates. Therefore, Scheve still teaches present invention of claim 10.

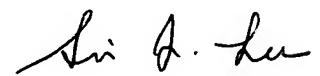
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sin J. Lee whose telephone number is 571-272-1333. The examiner can normally be reached on Monday-Friday from 9:00 am EST to 5:30 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly, can be reached on 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



S. Lee
February 5, 2005



Sin J. Lee
Patent Examiner
Technology Center 1700